

### ABSTRACT

Method and apparatus for providing thermal protection for actuators used in haptic  
5 feedback interface devices. An average energy in the actuator over a predetermined period of  
time is determined, and the maximum allowable current level in the actuator is reduced if the  
average energy is determined to exceed a predetermined warning energy level. The maximum  
allowable current level can be reduced to a sustainable current level if the average energy reaches  
a maximum energy level allowed, and the maximum allowable current level in the actuator can  
10 be raised if the average energy is determined to be below the predetermined warning energy  
level. Preferably, the maximum allowable current level is reduced smoothly as a ramp function.